

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

|             |                  |                   |                       |
|-------------|------------------|-------------------|-----------------------|
| Appellant:  | John B. Amundson | Examiner:         | Le V. Nguyen          |
| Serial No.: | 10/726,247       | Group Art Unit:   | 2174                  |
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Title: CONTROLLER INTERFACE WITH MENU SCHEDULE OVERRIDE

**APPEAL BRIEF**

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Pursuant to 37 C.F.R. § 41.37, Appellants hereby submit this Appeal Brief in furtherance of the Notice of Appeal filed on November 21, 2007 and of the Notice of Panel Decision from Pre-Appeal Review dated January 23, 2008. Appellants authorize the fee prescribed by 37 C.F.R. § 41.20(b)(2) in the amount of \$510.00 to be charged to Deposit Account No. 50-0413. Permission is hereby granted to charge or credit Deposit Account No. 50-0413 for any errors in fee calculation.

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I. REAL PARTY IN INTEREST

The real party in interest is the assignee of record, Honeywell International Inc., a corporation organized and existing under and by virtue of the laws of Delaware, and having its principal offices at 101 Columbia Road, Morristown, New Jersey 07962, USA. An assignment from the inventors, John B. Amundson, Heidi J. Finch, and Brent D. Vick, conveying all right, title and interest in the invention to Honeywell International Inc., has been recorded at Reel 014765, Frame 0719.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claim 57 stands finally rejected as being indefinite under 35 U.S.C. § 112, second paragraph. Claims 54-57 stand finally rejected under 35 U.S.C. § 102(e) as being anticipated by Alles (U.S. Patent No. 6,983,889). Claims 66-70 stand finally rejected under 35 U.S.C. § 102(e) as being anticipated by Ehlers et al. (U.S. Patent No. 7,130,719). Claims 1-49 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Alles (U.S. Patent No. 6,983,889) in view of Liebl et al. (US 5,289,362) and further in view of Ehlers et al. (U.S. Patent No. 7,130,719). Claims 50-53 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Alles (U.S. Patent No. 6,983,889) in view of Riley et al. (US 5,395,042) and further in view of Ehlers et al. (U.S. Patent No. 7,130,719). Claim 58 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Riley et al. (US 5,395,042) in view of Alles (U.S. Patent No. 6,983,889). Claims 61-64 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Riley et al. (US 5,395,042) in view of Alles (U.S. Patent No. 6,983,889) and further in view of Ehlers et al. (U.S. Patent No. 7,130,719). Claim 65 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Riley et al. (US 5,395,042) in view of Alles (U.S. Patent No. 6,983,889) and Ehlers et al. (U.S. Patent No. 7,130,719), as applied to claim 61, and further in view of Roy (US 5,257,736).

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In the Amendment under 37 CFR § 41.33 filed herewith, claim 71 has been canceled without prejudice, rendering the rejection of claim 71 moot. All pending claims, namely claims 1-58 and 61-70, are being appealed.

IV. STATUS OF AMENDMENTS

An Amendment-After-Final was filed on October 23, 2007, containing only Remarks. The Advisory Action mailed November 16, 2007 fails to indicate whether the October 23, 2007 Amendment-After-Final will be entered for purposes of appeal. Since the October 23, 2007 Amendment-After-Final made no amendments to the claims or specification, Appellants assume that the October 23, 2007 Amendment-After-Final has been entered. Appellants also assume that the Amendment under 37 CFR § 41.33 filed herewith will be entered, as it only cancels claim 71.

V. SUMMARY OF CLAIMED SUBJECT MATTER<sup>1</sup>

The invention relates generally to programmable controllers for homes and/or buildings and their related grounds. More specifically, the present invention relates to simplified interfaces for such controllers having menu schedule override capabilities (see, for example, specification, page 1, lines 6-9).

Modern controllers can control equipment, such as HVAC equipment, in accordance with a programmable regular schedule. A user interface is often provided that allows the user to program the regular schedule. In many cases, the user interface includes a menu routine that permits the user to program the regular schedule by change the temperature and/or other parameters at one or more times during a day or group of days, such as a temperature setting for a “wake” time interval, a “leave” time interval, a “return” time interval and a “sleep” time interval. In some cases, the user can program a start time and a heat and/or cool temperature set point for each regular schedule time interval. Once the regular schedule is programmed by the user, the programmable controller typically controls the equipment (e.g. HVAC equipment) in

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<sup>1</sup> The references to the specification and drawings provided herein are only illustrative and not limiting in any way.

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accordance with the programmed regular schedule. In HVAC applications, this may save energy, while achieving a suitably comfortable environment for the user.

In some cases, the user may know in advance that his/her actual schedule may temporarily deviate from the previously programmed regular schedule of the controller (see, for example, specification, page 2, lines 18-19). For example, the user may know in advance that he/she will be coming home from work later than usual on a particular day. In another example, the user may know in advance that he/she will be getting up earlier than usual, or may be staying home from work entirely on a particular day. In these and other situations, it would be desirable to be able to easily “override” the “regular” schedule, and once the user’s temporary schedule deviation has passed, return to the regular schedule.

Independent claim 1 relates to a method of overriding a programmable “regular” schedule of a controller. Claim 1 includes the steps of: providing a regular schedule for the controller (see, for example, specification; page 7, lines 5-16; Figure 1, reference numeral 110; Figure 2, reference numeral 250; page 10, lines 10-20; Figure 3, reference numeral 310; Figure 4, reference numeral 450; Figure 5, reference numeral 510; Figure 6, reference numeral 610; Figure 7; reference numeral 710; Figure 8A, reference numeral 802; Figure 9A, reference numeral 902), providing, simultaneously or sequentially, two or more schedule override choices to a user via the user interface (see, for example, specification: page 3, lines 10-11; page 7, lines 17; Figure 1, reference numeral 125; page 8, lines 15; page 9, lines 14-15; Figure 2, reference numeral 225; page 10, line 21-22; Figure 3, reference numeral 325; page 13, lines 6-7; Figure 4, reference numeral 425; page 14, lines 14-15; page 15, lines 1-2; Figure 5, reference numeral 525; page 17, lines 12-13; page 17, line 22 through page 18, line 1; Figure 6, reference numeral 625; page 20, lines 3-6; Figure 7, reference numerals 721-727; Figure 8B, reference numeral 820; Figure 9B, reference numeral 920), accepting a selection of one of the two or more schedule override choices from the user via the user interface (see, for example, specification: page 3, lines 11-13; page 7, lines 18-20; Figure 1, reference numeral 130; page 9, line 20 through page 10, line 1; page 10, lines 22-23; Figure 3, reference numeral 330; page 13, lines 12-13; Figure 4, reference numeral 440; page 14, lines 15-16; Figure 5, reference numeral 530; page 17, lines 13-14; Figure

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6, reference numeral 630), overriding the regular schedule based on the user responses provided via the user interface (see, for example, specification: page 3, lines 13-14; page 7, lines 20-22; Figure 1, reference numeral 135; page 10, lines 1-6; page 10, lines 3-4; page 13, lines 18-23; page 14, lines 19-21; Figure 5, reference numeral 535; page 17, lines 17-20; Figure 6, reference numeral 635; page 20, lines 13-17), and automatically returning to the regular schedule (see, for example, specification: page 7, lines 22-23; Figure 1; page 10, lines 4-6; page 14, lines 21-23; page 17, lines 20-21; page 20, lines 17-19).

Dependent claim 3 recites the method of claim 1, wherein the providing step involves providing one or more natural language schedule override choices (see, for example, specification at page 8, lines 6-8). Dependent claims 5-10 recite the method of claim 1, wherein the providing step involves providing a natural language schedule override choice of “Come Home Early”, “Come Home Late”, “Get Up Early”, “Stay Up Late”, “Stay Home”, and “On Vacation”, respectively (see, for example, specification at page 8, lines 8-14; Figure 7, reference numerals 722, 721, 723, 727, 724, and 726, respectively).

Independent claim 11 recites a controller comprising a programmable regular schedule (see, for example, specification; page 7, lines 5-16; Figure 1, reference numeral 110; Figure 2, reference numeral 250; page 10, lines 10-20; Figure 3, reference numeral 310; Figure 4, reference numeral 450; Figure 5, reference numeral 510; Figure 6, reference numeral 610; Figure 7; reference numeral 710; Figure 8A, reference numeral 802; Figure 9A, reference numeral 902), and a user interface, adapted and configured to provide two or more schedule override choices to a user (see, for example, specification: page 3, lines 10-11; page 7, lines 17; Figure 1, reference numeral 125; page 8, lines 15; page 9, lines 14-15; Figure 2, reference numeral 225; page 10, line 21-22; Figure 3, reference numeral 325; page 13, lines 6-7; Figure 4, reference numeral 425; page 14, lines 14-15; page 15, lines 1-2; Figure 5, reference numeral 525; page 17, lines 12-13; page 17, line 22 through page 18, line 1; Figure 6, reference numeral 625; page 20, lines 3-6; Figure 7, reference numerals 721-727; Figure 8B, reference numeral 820; Figure 9B, reference numeral 920), and accepting the selection of one of the two or more schedule override choices from the user (see, for example, specification: page 3, lines 11-13; page 7, lines 18-20; Figure 1,

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reference numeral 130; page 9, line 20 through page 10, line 1; page 10, lines 22-23; Figure 3, reference numeral 330; page 13, lines 12-13; Figure 4, reference numeral 440; page 14, lines 15-16; Figure 5, reference numeral 530; page 17, lines 13-14; Figure 6, reference numeral 630). The controller enters an override mode for overriding the regular schedule based on the user responses provided by the user interface (see, for example, specification: page 3, lines 13-14; page 7, lines 20-22; Figure 1, reference numeral 135; page 10, lines 1-6; page 10, lines 3-4; page 13, lines 18-23; page 14, lines 19-21; Figure 5, reference numeral 535; page 17, lines 17-20; Figure 6, reference numeral 635; page 20, lines 13-17), and the controller automatically returning to the regular schedule when the selected override choice expires (see, for example, specification: page 7, lines 22-23; Figure 1; page 10, lines 4-6; page 14, lines 21-23; page 17, lines 20-21; page 20, lines 17-19).

Dependent claim 13 recites the controller of claim 11, wherein the user interface provides one or more natural language schedule override choices (see, for example, specification at page 8, lines 6-11; page 11, lines 12-18; page 15, lines 6-11; page 18, lines 4-9; Figure 7, reference numerals 721-727; Figure 8B; Figure 9B). Dependent claims 15-20 recite the controller of claim 11, wherein the user interface provides a schedule override choice of “Come Home Early”, “Come Home Late”, “Get Up Early”, “Stay Up Late”, “Stay Home”, and “On Vacation”, respectively (see, for example, specification at page 8, lines 8-14, page 11, lines 14-18, and Figure 7, reference numbers 722, 721, 723, 727, 724, and 726, respectively).

Independent claims 21-23 recite a controller comprising a programmable regular schedule (see, for example, specification; page 7, lines 5-16; Figure 1, reference numeral 110; Figure 2, reference numeral 250; page 10, lines 10-20; Figure 3, reference numeral 310; Figure 4, reference numeral 450; Figure 5, reference numeral 510; Figure 6, reference numeral 610; Figure 7; reference numeral 710; Figure 8A, reference numeral 802; Figure 9A, reference numeral 902), and a user interface, adapted and configured to provide two or more schedule override choices to a user (see, for example, specification: page 3, lines 10-11; page 7, lines 17; Figure 1, reference numeral 125; page 8, lines 15; page 9, lines 14-15; Figure 2, reference numeral 225; page 10, line 21-22; Figure 3, reference numeral 325; page 13, lines 6-7; Figure 4,



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reference numeral 425; page 14, lines 14-15; page 15, lines 1-2; Figure 5, reference numeral 525; page 17, lines 12-13; page 17, line 22 through page 18, line 1; Figure 6, reference numeral 625; page 20, lines 3-6; Figure 7, reference numerals 721-727; Figure 8B, reference numeral 820; Figure 9B, reference numeral 920), and accepting the selection of one of the two or more schedule override choices from the user (see, for example, specification: page 3, lines 11-13; page 7, lines 18-20; Figure 1, reference numeral 130; page 9, line 20 through page 10, line 1; page 10, lines 22-23; Figure 3, reference numeral 330; page 13, lines 12-13; Figure 4, reference numeral 440; page 14, lines 15-16; Figure 5, reference numeral 530; page 17, lines 13-14; Figure 6, reference numeral 630). Claim 21 further recites the two or more schedule override choices includes a schedule override choice of “Come Home Early” and the regular schedule is temporarily overridden based on the user response provided via the user interface (see, for example, specification at page 11, lines 14-18). Claim 22 recites the two or more schedule override choices includes a schedule override choice of “Come Home Late” and the regular schedule is temporarily overridden based on the user response provided via the user interface (see, for example, specification at page 11, lines 14-18). Claim 23 further recites the two or more schedule override choices includes a schedule override choice of “Get Up Early” and the regular schedule is temporarily overridden based on the user response provided via the user interface (see, for example, specification at page 11, lines 14-18).

Independent claim 24 recites a method of temporarily overriding a regular programmable HVAC schedule in a controller having a user interface, the method comprising the steps of providing a regular HVAC schedule (see, for example, specification; page 7, lines 5-16; Figure 1, reference numeral 110; Figure 2, reference numeral 250; page 10, lines 10-20; Figure 3, reference numeral 310; Figure 4, reference numeral 450; Figure 5, reference numeral 510; Figure 6, reference numeral 610; Figure 7; reference numeral 710; Figure 8A, reference numeral 802; Figure 9A, reference numeral 902), providing one or more schedule override choices to a user via the user interface (see, for example, specification: page 3, lines 10-11; page 7, lines 17; Figure 1, reference numeral 125; page 8, lines 15; page 9, lines 14-15; Figure 2, reference numeral 225; page 10, line 21-22; Figure 3, reference numeral 325; page 13, lines 6-7; Figure 4,

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reference numeral 425; page 14, lines 14-15; page 15, lines 1-2; Figure 5, reference numeral 525; page 17, lines 12-13; page 17, line 22 through page 18, line 1; Figure 6, reference numeral 625; page 20, lines 3-6; Figure 7, reference numerals 721-727; Figure 8B, reference numeral 820; Figure 9B, reference numeral 920), accepting a user selection of one or more of the schedule override choices from the user via the user interface at a first time, and overriding temporarily the regular schedule in an override mode that is based on the selected one or more of the schedule override choices, the overriding step beginning at a second time that is later than the first time (see, for example, specification at page 10, line 7 through page 11, line 6, and Figure 3-6). Dependent claim 25 recites the method of claim 24, wherein the second time is later than the first time by a user selected time interval (see, for example, specification at page 11, line 19 through page 12, line 14).

Dependent claims 31-36 recite the method of claim 24, wherein the providing step comprises providing a schedule override choice of “Come Home Early”, “Come Home Late”, “Get Up Early”, “Stay Up Late”, “Stay Home”, and “On Vacation”, respectively (see, for example, specification at page 11, lines 14-18, and Figure 7, reference numbers 722, 721, 723, 727, 724, and 726, respectively).

Independent claim 37 recites a controller comprising a programmable regular schedule (see, for example, specification; page 7, lines 5-16; Figure 1, reference numeral 110; Figure 2, reference numeral 250; page 10, lines 10-20; Figure 3, reference numeral 310; Figure 4, reference numeral 450; Figure 5, reference numeral 510; Figure 6, reference numeral 610; Figure 7, reference numeral 710; Figure 8A, reference numeral 802; Figure 9A, reference numeral 902), and a user interface, adapted and configured to provide one or more schedule override choices to a user (see, for example, specification: page 3, lines 10-11; page 7, lines 17; Figure 1, reference numeral 125; page 8, lines 15; page 9, lines 14-15; Figure 2, reference numeral 225; page 10, line 21-22; Figure 3, reference numeral 325; page 13, lines 6-7; Figure 4, reference numeral 425; page 14, lines 14-15; page 15, lines 1-2; Figure 5, reference numeral 525; page 17, lines 12-13; page 17, line 22 through page 18, line 1; Figure 6, reference numeral 625; page 20, lines 3-6; Figure 7, reference numerals 721-727; Figure 8B, reference numeral 820; Figure 9B, reference

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numeral 920), and accept one or more user responses to the one or more schedule override choices from the user at a first time, wherein, the schedule is overridden beginning at a second time based on the user responses provided by the user interface, and the second time is later than the first time (see, for example, specification at page 12, line 22 through page 13, line 23, and Figures 3-6).

Independent claim 44 recites a method of modifying a programmable regular HVAC schedule for a controller having a user interface, the method comprising the steps of providing a regular HVAC schedule (see, for example, specification; page 7, lines 5-16; Figure 1, reference numeral 110; Figure 2, reference numeral 250; page 10, lines 10-20; Figure 3, reference numeral 310; Figure 4, reference numeral 450; Figure 5, reference numeral 510; Figure 6, reference numeral 610; Figure 7; reference numeral 710; Figure 8A, reference numeral 802; Figure 9A, block 902) for a controller having a user interface, providing one or more schedule comfort override menu choices to a user via the user interface (see, for example, specification: page 3, lines 10-11; page 7, lines 17; Figure 1, block 125; page 8, lines 15; page 9, lines 14-15; Figure 2, block 225; page 10, line 21-22; Figure 3, block 325; page 13, lines 6-7; Figure 4, block 425; page 14, lines 14-15; page 15, lines 1-2; Figure 5, block 525; page 17, lines 12-13; page 17, line 22 through page 18, line 1; Figure 6, block 625; page 20, lines 3-6; Figure 7, blocks 721-727; Figure 8B, block 820; Figure 9B, block 920), accepting a start time, end time or duration, and comfort temperature response to the one or more schedule comfort override choices from the user via the user interface at a first time, overriding the regular HVAC schedule based on the user responses provided by the user interface, the overriding step beginning at a second time, wherein the second time is later than the first time, and automatically returning to the regular HVAC schedule (see, for example, specification: page 14, lines 1-23, page 17, lines 1-21; page 19, line 20 through page 20, line 19; Figures 5-7).

Dependent claims 45-49 recite the method of claim 44, wherein the one of the schedule comfort override choices is “Come Home Early”, “Get Up Early”, “Stay Up Late”, “Stay Home”, and “On Vacation”, respectively (see, for example, specification at page 15, lines 1-13, and Figure 7, reference numbers 722, 723, 727, 724, and 726, respectively).

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Independent claim 50 recites a method of modifying a programmable regular HVAC schedule (see, for example, specification; page 7, lines 5-16; Figure 1, reference numeral 110; Figure 2, reference numeral 250; page 10, lines 10-20; Figure 3, reference numeral 310; Figure 4, reference numeral 450; Figure 5, reference numeral 510; Figure 6, reference numeral 610; Figure 7; reference numeral 710; Figure 8A, reference numeral 802; Figure 9A, reference numeral 902) for a controller having a user interface, the method comprising the steps of providing one or more schedule override menu choices to a user via the user interface (see, for example, specification: page 3, lines 10-11; page 7, lines 17; Figure 1, reference numeral 125; page 8, lines 15; page 9, lines 14-15; Figure 2, reference numeral 225; page 10, line 21-22; Figure 3, reference numeral 325; page 13, lines 6-7; Figure 4, reference numeral 425; page 14, lines 14-15; page 15, lines 1-2; Figure 5, reference numeral 525; page 17, lines 12-13; page 17, line 22 through page 18, line 1; Figure 6, reference numeral 625; page 20, lines 3-6; Figure 7, reference numerals 721-727; Figure 8B, reference numeral 820; Figure 9B, reference numeral 920), accepting a start time, end time or duration, and a temperature response to the one or more of the schedule override menu choices from the user via the user interface at a first time, and overriding the regular HVAC schedule in an override mode based on the user responses provided by the user interface, the overriding step beginning at a second time, wherein the override mode does not change the regular HVAC schedule (see, for example, specification: page 14, lines 1-23, page 17, lines 1-21; page 19, line 20 through page 20, line 19; Figures 5-7).

Dependent claims 52 and 53 recite the method of claim 50, wherein the providing step comprises providing a schedule override choice of “Come Home Late” or “On Vacation”, respectively (see, for example, specification at page 18, lines 1-10, and Figure 7, reference numbers 721 and 726, respectively).

Independent claim 54 recites a method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space in accordance with a first set point, the method comprising deactivating at least a first part of the HVAC system to not modify and control at least one environmental condition of the inside space in accordance with the first set point, monitoring the environmental condition in the inside space that the HVAC

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system is no longer modifying and controlling, and automatically activating at least the first part of the HVAC system to again modify the environmental condition in the inside space if the environmental condition in the inside space passes a second set point, wherein the second set point is different than the first set point (see, for example, specification at page 22, lines 5-23 and page 23, lines 1-6, and Figure 10).

Independent claim 57 recites a method for controlling an HVAC system that has a fan that normally operates during heating and/or cooling operations, the method comprising requesting a time indicator from a user, over-riding the fan for a time corresponding to the time indicator provided by the user, and returning to normal fan operation after the time expires (see, for example, specification at page 23, line 15 through page 24, line 3, and Figure 11).

Independent claim 58 recites a method for controlling an HVAC system having a controller including a user interface, the HVAC system is adapted to modify and control at least one environmental condition of an inside space of a structure, the structure having at least one window that opens and closes, the method comprising detecting an indication, based on user input into the user interface, that a window is or has been opened, deactivating at least part of the HVAC system to not modify and control at least one environmental condition of the inside space, detecting an indication, based on user input into the user interface, that the window is or has been closed, and activating the at least part of the HVAC system that was deactivated to again modify and control the at least one environmental condition of the inside space (see, for example, specification at page 24, line 19 through page 25, line 15, and Figure 13). Dependent claim 61 recites the method of claim 58 further comprising the step of providing an alarm if one or more environmental conditions falls outside of a predetermined range while the at least part of the HVAC system is deactivated (see, for example, specification at page 25, line 16 through page 26, line 5, and Figure 13, reference number 1028).

Independent claim 66 recites a method for controlling an HVAC system that is adapted to modify and control an environmental condition of an inside space of a structure, the method comprising controlling a first environmental condition using a first control set point, sensing the first environmental condition outside of the structure, and adjusting the first control set point if

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the first environmental condition outside of the structure passes a predetermined value (see, for example, specification at page 26, line 6 through page 27, line 9, and Figure 14).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. *Whether claim 57 is indefinite under 35 U.S.C. § 112, second paragraph.*
2. *Whether claims 54-57 are unpatentable under 35 U.S.C. § 102(e) over Alles (U.S. Patent No. 6,983,889).*
3. *Whether claims 66-70 are unpatentable under 35 U.S.C. § 102(e) over Ehlers et al. (U.S. Patent No. 7,130,719).*
4. *Whether claims 1-49 are unpatentable under 35 U.S.C. § 103(a) over Alles (U.S. Patent No. 6,983,889) in view of Liebl et al. (US 5,289,362) and further in view of Ehlers et al. (U.S. Patent No. 7,130,719).*
5. *Whether claims 50-53 are unpatentable under 35 U.S.C. § 103(a) over Alles (U.S. Patent No. 6,983,889) in view of Riley et al. (US 5,395,042) and further in view of Ehlers et al. (U.S. Patent No. 7,130,719).*
6. *Whether claim 58 is unpatentable under 35 U.S.C. § 103(a) over Riley et al. (US 5,395,042) in view of Alles (U.S. Patent No. 6,983,889).*
7. *Whether claims 61-64 are unpatentable under 35 U.S.C. § 103(a) over Riley et al. (US 5,395,042) in view of Alles (U.S. Patent No. 6,983,889) and further in view of Ehlers et al. (U.S. Patent No. 7,130,719).*
8. *Whether claim 65 is unpatentable under 35 U.S.C. § 103(a) over Riley et al. (US 5,395,042) in view of Alles (U.S. Patent No. 6,983,889) and Ehlers et al. (U.S. Patent No. 7,130,719), as applied to claim 61, and further in view of Roy (US 5,257,736).*

VII. ARGUMENT

***A. Claim 57 is clear and definite under 35 U.S.C. § 112, second paragraph***

While the rejection in the Final Office Action dated August 23, 2007 refers to claim 55, it is noted that the body of the rejection refers to claim 57. As such, Appellants believe the Examiner intended to reject claim 57 under 35 U.S.C. § 112, second paragraph, rather than claim

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55, and will respond accordingly.

The Examiner has rejected the phrase “heating and/or cooling” as being indefinite under 35 U.S.C. § 112, second paragraph. This is clearly erroneous. As noted in MPEP § 2172.02:

In reviewing a claim for compliance with 35 U.S.C. 112, second paragraph, the examiner must consider the claim as a whole to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph, by providing clear warning to others as to what constitutes infringement of the patent. ... The requirement to ‘distinctly’ claim means that the claim must have a meaning discernible to one of ordinary skill in the art when construed according to correct principles....Only when a claim remains insolubly ambiguous without a discernible meaning after all reasonable attempts at construction must a court declare it indefinite.

...

If the language of the claim is such that a person of ordinary skill in the art could not interpret the metes and bounds of the claim so as to understand how to avoid infringement, a rejection of the claim under 35 U.S.C. 112, second paragraph, would be appropriate. See Morton Int’l, Inc. v. Cardinal Chem. Co., 5 F.3d 1464, 1470, 28 USPQ2d 1190, 1195 (Fed. Cir. 1993). However, if the language used by applicant satisfies the statutory requirements of 35 U.S.C. 112, second paragraph, but the examiner merely wants the applicant to improve the clarity or precision of the language used, the claim must not be rejected under 35 U.S.C. 112, second paragraph, ...

(Emphasis added). In claim 57, one of ordinary skill in the art, having read and understood the specification, would clearly understand the phrase “heating and/or cooling” as referring to a method of controlling an HVAC system that has a fan that normally operates during: heating operations; during cooling operations; OR during heating AND cooling operations. There is nothing insolubly ambiguous about this language. Notably, the phrase “and/or” is commonly used in claim language. A quick word search using the Patent Office web site reveals that there are currently 141,402 issued patents that include the phrase “and/or” in the claims (search query: aclm/"and/or"). Also, in the MPEP, the phrase “and/or” is used over twenty-five (25) times in just chapter 2100 alone. In view of the foregoing, Appellants submit that claim 57 fully complies with 35 U.S.C. § 112, second paragraph, and the rejection should be reversed.

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***B. Claims 54-57 are patentable under 35 U.S.C. § 102(e) over Alles (U.S. Patent No. 6,983,889)***

*i. Claim 54*

Independent claim 54 recites:

54. (previously presented) A method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space in accordance with a first set point, the method comprising:  
deactivating at least a first part of the HVAC system to not modify and control at least one environmental condition of the inside space in accordance with the first set point;  
monitoring the environmental condition in the inside space that the HVAC system is no longer modifying and controlling; and  
automatically activating at least the first part of the HVAC system to again modify the environmental condition in the inside space if the environmental condition in the inside space passes a second set point, wherein the second set point is different than the first set point.

As can be seen, claim 54 recites a method for controlling an HVAC system using a first set point and a second set point that is different from the first set point. More specifically, claim 54 recites: deactivating at least a first part of the HVAC system to not modify and control at least one environmental condition of the inside space in accordance with the first set point; monitoring the environmental condition in the inside space that the HVAC system is no longer modifying and controlling; and automatically activating at least the first part of the HVAC system to again modify the environmental condition in the inside space if the environmental condition in the inside space passes a second set point, wherein the second set point is different than the first set point. It should be noted that it is the same portion (i.e. first portion) of the HVAC system that is deactivated in accordance with the first set point and activated in accordance with the second set point.

In order to anticipate, the cited reference must disclose each and every claimed element, and “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). See MPEP § 2131. Alles clearly fails to do so. The cited portions of Alles do not disclose the method steps recited in claim 54, and in particular, the identical invention in as



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complete detail as is contained in the claim, as is required for anticipation. Instead, the cited portions of Alles are directed to conventional heating and cooling temperature set points.

The Examiner asserts that Alles discloses a first set point (2113) and a second set point (2116). However, one of ordinary skill in the art would clearly recognize that set point (2113) is a cooling temperature set point, as indicated by the text “Cool When Above This Temperature” shown adjacent to set point 2113 in FIG. 21, and that set point (2116) is a heating temperature set point, as indicated by the text “Heat when Below This Temperature” shown adjacent to set point 2116 in FIG. 21. As such, Alles discloses nothing more than setting conventional heating and cooling temperature set points of an HVAC system.

In accordance with Alles, cooling equipment may be activated if an environmental temperature meets or exceeds the cooling set point (2113). Likewise, heating equipment may be activated if an environmental temperature meets or drops below the heating set point (2116). One of skill in the art would clearly recognize that a cooling temperature set point is not used to activate or deactivate heating equipment. Likewise, a heating temperature set point is not used to activate or deactivate cooling equipment. Thus, Alles cannot be considered as deactivating a first portion of an HVAC system (e.g. heating equipment) in accordance with a first set point and activating the same first portion (e.g. heating equipment) of the HVAC system in accordance with a second set point. This is a claimed feature clearly missing from Alles.

In the Response to Arguments (page 25 of the Final Office Action mailed August 23, 2007), the Examiner has asserted that Alles teaches a method for controlling an HVAC system in which, for example, a first set point (e.g. the cooling set point 2113?) may be set to 32° and a second set point (e.g. the heating set point 2116?) may be set to 31°. When the temperature hits the first set point, the heater is deactivated. When the temperature drops to the second set point, the heater is reactivated. However, there is no reasonable basis, within the teachings of Alles, for such an assertion. First, there is nothing in Alles that appears to disclose deactivating a heater when the temperature reaches one of the sets point (e.g. cooling set point 2113?), and then reactivating the heater when the temperature reaches a second set point (e.g. heating set point 2116?). Alles simply does not describe or suggest two distinct set points that are used to control

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operation of a particular portion (e.g. the heater) of an HVAC system, and thus the Examiner's assertion is not based within the teachings of the reference and instead appears to be little more than reconstructive hindsight.

As detailed above, one of ordinary skill in the art would clearly recognize that set point (2113) is a cooling temperature set point and that set point (2116) is a heating temperature set point. As such, Alles appears to disclose nothing more than setting standard heating and cooling temperature set points, and thus cannot be considered as deactivating a first portion of an HVAC system to not modify and control at least one environmental condition of an inside space in accordance with a first set point, and then activating the same first portion of the HVAC system to again modify the environmental condition in the inside space if the environmental condition in the inside space passes a second set point.

If the Examiner is attempting to assert that the specific method steps recited in claim 54 are inherent in Alles, Appellants submit that there is no basis for such an interpretation. MPEP § 2112 IV states:

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)...

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

(Emphasis added). Appellants submit that the claimed method steps, in particular the steps of deactivating at least a first part of the HVAC system to not modify and control at least one

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environmental condition of the inside space in accordance with the first set point, monitoring the environmental condition in the inside space that the HVAC system is no longer modifying and controlling, and automatically activating at least the first part of the HVAC system to again modify the environmental condition in the inside space if the environmental condition in the inside space passes a second set point, are clearly not necessarily present in Alles. The Examiner may be attempting to assert that the claimed method steps could be performed by the system of Alles, which is not a proper basis for rejection.

Finally, in the Advisory Action dated November 16, 2007, section (a), the Examiner asserts that the argued element of two distinct set points is not recited in the claims. Appellants do not understand this statement. Claim 54 clearly recite two different set points used to control an environmental condition.

For these and other reasons, the rejection of claim 54 under 35 U.S.C. § 102(e) over Alles is clear error, and should be reversed. For similar and other reasons, the rejection of dependent claims 55-56 under 35 U.S.C. § 102(e) over Alles is also clear error and should also be reversed.

ii. Claim 57

Independent claim 57 recites:

57. (original) A method for controlling an HVAC system that has a fan that normally operates during heating and/or cooling operations, the method comprising:  
requesting a time indicator from a user;  
over-riding the fan for a time corresponding to the time indicator provided by the user; and  
returning to normal fan operation after the time expires.

As can be seen, claim 57 is directed to a method for controlling an HVAC system that has a fan. The method includes the steps of requesting a time indicator, over-riding the fan for a time period corresponding to the time indicator, and then returning to normal fan operation thereafter.

As noted above, in order to anticipate, the cited reference must disclose each and every claimed element, and “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). See MPEP § 2131. Alles clearly fails to do so. The cited portions

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of Alles do not disclose the specific method steps recited in claim 57, and in particular, the identical invention in as complete detail as is contained in the claim, as is required for anticipation. Instead, Alles appears to disclose a programmable schedule that includes a number of schedule time periods during each day (or group of days). Alles references these time periods, for example, as sleeping, active, empty and relaxing. The time periods of “sleeping”, “active”, “empty” and “relaxing” would appear to correspond to the regular schedule time periods of “sleep”, “wake”, “leave” and “return”, which have been commonly used in conventional electronic thermostat for many years. To illustrate, and with reference to Figure 20 of Alles, the sleep period may extend from 10 pm to 6 am. The active period may extend from 6 am to 8 am if nobody is home during the day. The empty period may extend from 8 am to 5 pm and may correspond to the time that the occupants are at work, and the relaxing period may extend from 5 pm to 10 pm. These are clearly part of the regular schedule of Alles. As such, one of ordinary skill in the thermostat art would clearly recognize that Alles, in the cited passages and Figures, is merely describing programming the regular schedule.

The cited portions of Alles do appear to permit the user to set particular settings for fan speed for each of the one or more schedule time periods of the programmable regular schedule. However, the cited portions of Alles appear to merely describe making one or more fan settings such as air circulation rate, permitted noise, and the like, for each of the schedule time periods. While Alles may, for example, permit the user to make a particular setting for a particular schedule time period of the programmable regular schedule, and perhaps a different setting for a different schedule time period, all of these fan settings appear to be part of the programmable regular schedule.

This is simply not the same as permitting the user to enter a time indicator, over-riding the normal fan operation in accordance with the time indicator and subsequently returning to normal fan operation. One skilled in the art would clearly understand that the normal fan operation refers to the fan setting of the programmable regular schedule. Notably, Alles does not appear to disclose “over-riding” the fan setting of the regular schedule, and then some time later, returning to the fan setting of the regular schedule.

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In section (b) of the Advisory Action, the Examiner points to column 27, lines 17-27 and line 50 through column 28, line 8, column 31, lines 40-45, and column 32, lines 11-12 of Alles as teaching the specific steps recited in claim 57. These portions of Alles describe, for example: the "comfort climate" and "enter time" portions of the normal programmable schedule set-up program (column 27), "Comfort-Climate" popup menu for editing temperature ranges for various time periods in the normal programmable schedule (column 31); and the "off", "mid", and "high" circulation modes that are available in the normal programmable schedule (column 32). One skilled in the art would clearly understand that these changes relate to the normal programmable schedule of the thermostat, which is clearly not the same as: permitting the user to enter a time indicator; over-riding the normal fan operation in accordance with the time indicator; and subsequently returning to normal fan operation.

Clearly, the cited portions of Alles do not disclose the specific method steps recited in claim 57, and in particular, the identical invention in as complete detail as is contained in the claim, as is required for anticipation. For these and other reasons, the rejection of claim 57 under 35 U.S.C. § 102(e) over Alles is clear error, and should be reversed.

***C. Claims 66-70 are patentable under 35 U.S.C. § 102(e) over Ehlers et al. (U.S. Patent No. 7,130,719)***

As noted above, in order to anticipate, the cited reference must disclose each and every claimed element, and “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). See MPEP § 2131. Ehlers clearly fails to do so. In particular, independent claim 66 recites:

66. (previously presented) A method for controlling an HVAC system that is adapted to modify and control an environmental condition of an inside space of a structure, the method comprising:  
controlling a first environmental condition using a first control set point;  
sensing the first environmental condition outside of the structure; and  
adjusting the first control set point if the first environmental condition outside of the structure passes a predetermined value.

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As can be seen, claim 66 recites a method for controlling an HVAC system including the steps of: controlling a first environmental condition; sensing that first environmental condition outside the structure; and adjusting the first control set point if that first environmental condition outside of the structure passes a predetermined value. It should be noted that claim 66 recites sensing the first environmental condition outside the structure.

In contrast to claim 66, Ehlers is directed to monitoring an indoor humidity and using the indoor humidity to adjust, as necessary, an indoor temperature set point. The Examiner cites to column 30, line 65 through column 31, line 23 of Ehlers, which recites:

In one embodiment, the system 3.08 determines the effective temperature to accommodate changes in the indoor humidity settings. For example, if the customer initially sets the thermostat at 72 degrees F., the system 3.08 senses the indoor humidity level and maintains a relationship between the temperature and humidity level sensed. As the humidity level of the home 2.18 rises in summer, the set point would remain at 72 degree F., however, the effective setpoint that the system 3.08 must maintain is automatically lowered to maintain a consistent level of comfort. As a default parameter, the system 2.18 may have to lower the effective set point from that established by the customer by 3 degrees F. for every 10% of relative humidity that is sensed to retain the comfort level in the site 1.04. On the opposite side of the control algorithm, as a default parameter, the effective set point would be raised by 3 degrees F. for every 10% reduction in sensed humidity within the home 2.18 to maintain the desired comfort level in winter. The ratio of 3 degrees F. + or - is a default setting and would be modified as needed based on the user's changes to the set point at the thermostat 1.30D. Changes to the effective set point as it relates to the sensed humidity therefore may be increased or decreased from the default ratios permitting the control algorithm to learn the user's individual preferences and over time, eliminate the need for the site 1.04 occupant to make any changes.

As can readily be seen, the cited passage of Ehlers is silent as to monitoring an outdoor humidity, and in particular, using an outdoor humidity to adjust the set point if that outdoor humidity outside of the structure passes a predetermined value, as asserted by the Examiner.

The Examiner argues, in section (c) of the Advisory Action, that Ehlers teaches a thermostat coupled to sensors adapted to sense outdoor air quality, citing column 28, lines 62-64. While Ehlers appears to teach sensing various aspects of outside environment, Ehlers clearly does not teach adjusting a first control set point if an environmental condition outside passes a

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predetermined value, as is recited in claim 66. Ehlers' reference to relative humidity provides no indication to one of skill in the art that it is outdoor humidity that is being monitored, and more specifically, is being used to control a set point inside the building, and even more specifically, used to adjusting a set point of the building when an outdoor humidity passes a predetermined value. Clearly, the cited portions of Ehlers do not disclose the specific method steps recited in claim 66, and in particular, the identical invention in as complete detail as is contained in the claim, as is required for anticipation. For these and other reasons, the rejection of claim 66 under 35 U.S.C. § 102(e) over Ehlers is clear error, and should be reversed. For similar and other reasons, the rejection of dependent claims 67-70 under 35 U.S.C. § 102(e) over Ehlers is clear error, and should be reversed.

***D. Claims 1-49 are patentable under 35 U.S.C. § 103(a) over Alles (U.S. Patent No. 6,983,889) in view of Liebl et al. (US 5,289,362) and Ehlers et al. (U.S. Patent No. 7,130,719).***

*i. Claim 1*

One of the requirements of a *prima facie* obviousness rejection is that the cited references must disclose or suggest each and every claimed element. At a minimum, this requirement has not been met.

Claim 1 recites:

1. (previously presented) A method of overriding a programmable regular schedule for a controller having a user interface, the method comprising the steps of:
  - providing a regular schedule for the controller;
  - providing, simultaneously or sequentially, two or more schedule override choices to a user via the user interface;
  - accepting a selection of one of the two or more schedule override choices from the user via the user interface;
  - overriding the regular schedule based on the user responses provided via the user interface; and
  - automatically returning to the regular schedule.

As can be seen, claim 1 is directed to a method of overriding a programmable regular schedule for a controller having a user interface. Claim 1 recites the steps of: providing a regular schedule for the controller; providing, simultaneously or sequentially, two or more schedule override

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choices to a user via the user interface; accepting a selection of one of the two or more schedule override choices from the user via the user interface; overriding the regular schedule based on the user responses provided via the user interface; and automatically returning to the regular schedule.

The Examiner asserts that Alles teaches two or more schedule override choices, apparently referring to the schedule choices 2101 in the "Comfort-Climate" popup menu 2100 of the PDA interface shown in Figure 21 of Alles. Appellants respectfully assert that the Examiner has clearly misinterpreted the cited reference, as the cited passages pertain to programming particular parameters of the regular schedule. As one skilled in the art would clearly recognize, the time periods of sleeping, active, empty, and relaxing refer to particular time periods within the regular schedule of Alles, and not to schedule override choices, as asserted by the Examiner. In fact, the time periods of "sleeping", "active", "empty" and "relaxing" appear to correspond to the regular programmable schedule time periods of "sleep", "wake", "leave" and "return", which have been commonly used in conventional electronic thermostat for many years. To illustrate, and with reference to Figure 20 of Alles, the sleep period may extend from 10 pm to 6 am. The active period may extend from 6 am to 8 am if nobody is home during the day. The empty period may extend from 8 am to 5 pm and may correspond to the time that the occupants are at work, and the relaxing period may extend from 5 pm to 10 pm. These are all parts of the programmable regular schedule of Alles. One of ordinary skill in the thermostat art would clearly recognize that Alles, in the cited passages, is merely describing programming the regular schedule of the thermostat. One of skill in the art would also clearly recognize that these are not schedule override choices, as asserted by the Examiner.

The comfort-climate menu of Alles clearly relates to parameters that are used to program the regular schedule of Alles, and do not relate to schedule over-rides. A schedule over-ride is clearly something that over-rides a regular schedule, and thus cannot be considered the same as the regular schedule. In response, and in the Response to Arguments section of the final Office Action (see page 25 of the final Office Action), and under paragraph (c), the Examiner argues that Alles allows users to set a regular schedule via a user interface (UI) and make subsequent



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modifications to the regular schedule via the UI. In this, the Examiner admits that Alles does not teach or suggest the use of schedule over-rides. Clearly, one skilled in the thermostat art would recognize that making a change to the regular schedule, and then making a subsequent modification to the regular schedule is not: (1) providing, simultaneously or sequentially, two or more schedule override choices to a user via the user interface; (2) accepting a selection of one of the two or more schedule override choices from the user via the user interface; or (3) overriding the regular schedule based on the user responses provided via the user interface. Moreover, making a subsequent modification to the regular schedule is clearly not a schedule over-ride, but rather is simply a modification of the regular schedule. Moreover, claim 1 recites the step of automatically returning to the regular schedule. If a subsequent modification were made to the regular schedule in Alles, Alles certainly does not disclose automatically returning to the original pre-modified regular schedule.

In section (c) of the Advisory Action, the Examiner asserts that users dictate their "regular" schedule by selecting schedule overrides and selecting temperature settings for various time periods. The Examiner's statement is self-contradictory because how can one set up a "regular" schedule by selecting regular schedule overrides? Appellants submit that one of ordinary skill in the art would clearly understand that an "override" is by definition an overtaking or replacement of a previous "regular" schedule for a period of time. When one is setting up a regular schedule, as taught by Alles, one selects and adjusts regular schedule parameters, not "overrides". Alles does not appear to teach anything regarding schedule override choices, as recited in claim 1.

As can readily be seen, claim 1 (and hence claims 2-10 depending therefrom) recite method steps that are simply not disclosed or suggested by the primary reference (Alles). The Examiner asserts that "Liebl teaches a method of overriding and, therefore, providing a regular schedule and automatically returning to the regular schedule", citing Figs. 2 and 9(A-C). However, Liebl merely discloses having the user manually change the current set-point temperature. Liebl does not teach providing any schedule override choices to a user, and more particularly, two or more schedule override choices to a user via the user interface, as recited in

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claim 1. Consequently, Liebl cannot be considered as remedying the noted shortcomings of Alles. Indeed, the Examiner admits (see top of page 7 of the final Office Action dated August 23, 2007) that Liebl does not explicitly disclose temporarily overriding a regular schedule.

The Examiner also appears to rely on Ehlers to suggest temporarily overriding a regular schedule, citing to Figure 4H. However, Figure 4H of Ehlers appears to be nothing more than a display screen that permits the user to define the start and stop time periods of a programmable regular schedule, such as sleep, home and away. This is nothing more than programming a regular schedule as described above with respect to Alles. Figure 4H of Ehlers does not relate to a temporary override, as the Examiner appears to be suggesting. Thus, Ehlers cannot be considered as remedying the noted shortcomings of Alles and Liebl. For these and other reasons, claim 1 is believed to be clearly patentable over Alles in view of Liebl and further in view of Ehlers. For similar and other reasons, dependent claims 2-10 are also believed to be clearly patentable over Alles in view of Liebl and Ehlers.

*ii. Claims 5-10*

In the first Office Action mailed February 27, 2007, the Examiner took Official Notice of the use of user inputs labels, such as “Come Home Early”, as being well known in the art. It is clear from this language that the Examiner was initially taking Official Notice of the use of user input labels generally, using the Come Home Early label as a convenient way of conveying what he was meant by a user input. As such, Appellants assumed that Official Notice was only being taken for the use of user input labels generally, but not for the specific user input labels recited in claims 5-10. Conventional thermostats often do use user input labels, and as such, the Official Notice was not challenged at that time.

However, in the Final Office Action mailed August 23, 2007, it appeared the Examiner was attempting to extend the Official Notice to include the specific schedule override choices recited in claims 5-10. In the response filed October 23, 2007, Appellants challenged this apparent extension of Official Notice with regard to schedule override choices, and more specifically, to the specific schedule override choices set forth in claims 5-10. In the Advisory Action mailed November 16, 2007, the Examiner stated, “since applicant did not traverse the

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2/27/07 assertion of official notice in applicant's 5/24/07 remarks, the official notice is taken to be admitted prior art as of the 8/23/07 Office Action." Appellants submit that extending Official Notice to cover the specific schedule override choices recited in claims 5-10 is improper, particularly since once it became apparent that the Examiner was attempting to extend the Official Notice to include specific schedule override choices, Appellants immediately challenged the taking of Official Notice. Claims 5-10 recite various user input phrases as schedule override choices presented to the user. These are clearly distinguished from the general use of natural language user input labels, and are clearly not "capable of instant and unquestionable demonstration as being well-known" See MPEP § 2144.03. None of the cited references teach, disclose or suggest the specific schedule override choices recited in claims 5-10. As such, and for these additional reasons, claims 5-10 are believed to be clearly patentable over Alles in view of Liebl and Ehlers.

*iii. Claim 11*

Turning now to claim 11, which recites:

11. (previously presented) A controller comprising:  
a programmable regular schedule; and  
a user interface, adapted and configured to provide two or more schedule override choices to a user, and accepting the selection of one of the two or more schedule override choices from the user;  
wherein, the controller enters an override mode for overriding the regular schedule based on the user responses provided by the user interface, and the controller automatically returning to the regular schedule when the selected override choice expires.

Claim 11 is directed to a controller that includes a programmable regular schedule, and a user interface adapted and configured to provide two or more schedule override choices to a user. Claim 11 recites: accepting the selection of one of the two or more schedule override choices from the user; wherein the controller enters an override mode for overriding the regular schedule based on the user responses provided by the user interface. Claim 11 also recites that the controller automatically returns to the regular schedule when the selected override choice expires.

In section (f) of the Advisory Action, the Examiner asserts that Alles, Liebl and

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Ehlers teach a controller comprising a programmable regular schedule and a user interface (UI) that accepts selection schedule override choices from the user wherein the controller enters a mode for overriding the regular schedule based on the user responses via the UI at a first time and automatically returns to the regular schedule when the selected override choice expires, including temporarily overriding the regular schedule in an override mode based on the selected override choices at a second time later than the first time.

As discussed above, none of the references teach or suggest a method or controller that provides a user with two or more schedule override choices, as is recited in claim 11. At best, Liebl appears to teach using the temperature "up" and "down" buttons to manually increase or decrease the current temperature set-point. However, the controller of Liebl clearly does not provide two or more schedule override choices to the user, as recited in claim 11, or accepting the selection of one of the two or more schedule override choices from the user. Liebl thus does not provide what Alles lacks regarding override choices. Like Liebl, Ehlers also does not teach a controller with a user interface that provides two or more schedule override choices to the user, or accepting the selection of one of the two or more schedule override choices from the user, as is recited in claim 11. As is readily apparent, none of Alles, Liebl or Ehlers, alone or in combination, teach or suggest a controller having the recited elements. For these and other reasons, claim 11 is clearly patentable over Alles in view of Liebl, and further in view of Ehlers. For similar and other reasons, dependent claims 12-20 are clearly patentable over Alles in view of Liebl and Ehlers.

iv. Claims 15-20

For the same reasons discussed above with respect to claims 5-10, claims 15-20 are also believed to be clearly patentable over Alles in view of Liebl and Ehlers.

v. Claims 21-23

Independent claims 21-23 recite a controller having a programmable regular schedule, and a user interface adapted and configured to provide two or more schedule override choices to a user, and for accepting the selection of one of the two or more schedule override choices from

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the user. Claim 21 further recites that the two or more schedule override choices includes a schedule override choice of “Come Home Early”, claim 22 recites a schedule override choice includes “Come Home Late”, and claim 23 recites a schedule override choice includes “Get Up Early”. Claims 21-23 further recite the regular schedule is temporarily overridden based on the user response provided via the user interface. For at least the reasons set forth above, none of Alles, Liebl or Ehlers, taken alone or in combination, teach, disclose or suggest a controller having the recited elements.

The Examiner has taken Official Notice of the use of user inputs labels as well known in the art. As discussed above with respect to claims 5-10, Appellants respectfully challenge the apparent extension of Official Notice taken during prosecution in this case. In any event, claims 21-23 recite various schedule override choices presented to the user, which are clearly distinguished from the cited prior art.

In section (f) of the Advisory Action, the Examiner points to Figs. 21-23 and column 32, lines 28-47 of Alles as teaching displaying a natural language schedule override choice that users input. The Examiner has clearly mischaracterized the reference. The cited portion of Alles actually teaches how the user, during the setup of the programmable regular schedule, can edit the names of the various regular schedule time periods. In FIG. 21, the user has named the Comfort Climate time period “Sleeping”, and has selected cooling when the temperature is above 76 degrees and heating when the temperature is below 68 degrees. The fact that Alles teaches selecting “Return” after the changes are made to save the changes further indicates that this is simply part of the regular programmable schedule set-up procedure, and not a schedule override choice. Appellants submit that one of ordinary skill in the art, upon reading Alles, would clearly not interpret the Comfort Climate editing process as corresponding to schedule “override” choices, as recited in claims 21-23.

*vi. Claim 24, 37, 44*

Independent claim 24 recites:

24. (previously presented) A method of temporarily overriding a regular programmable HVAC schedule in a controller having a user interface, the

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method comprising the steps of:  
    providing a regular HVAC schedule;  
    providing one or more schedule override choices to a user via the user interface;  
    accepting a user selection of one or more of the schedule override choices from the user via the user interface at a first time; and  
    overriding temporarily the regular schedule in an override mode that is based on the selected one or more of the schedule override choices, the overriding step beginning at a second time that is later than the first time.

Independent claim 24 recites a method for temporarily overriding a regular programmable HVAC schedule in a controller having a user interface. The method includes providing a regular HVAC schedule; providing one or more schedule override choices to a user via the user interface; accepting a user selection of one or more of the schedule override choices from the user via the user interface at a first time; and overriding temporarily the regular schedule in an override mode that is based on the selected one or more of the schedule override choices.

Independent claim 24 further recites that overriding step begins at a second time that is later than the first time. For at least the reasons set forth above with respect to claim 1, none of Alles, Liebl or Ehlers, alone or in combination, teach or suggest a controller having the recited elements.

Further, none of Alles, Liebl or Ehlers teach, disclose or suggest beginning an overriding step at a second time that is later than the first time, as recited in claim 24. For these and other reasons, claim 24 is clearly patentable over Alles in view of Liebl, and further in view of Ehlers. For similar and other reasons, independent claims 37 and 44 are clearly patentable over Alles in view of Liebl, and further in view of Ehlers. For similar and other reasons, dependent claims 25-36, 38-43 and 45-49 are also clearly patentable over Alles in view of Liebl, and further in view of Ehlers.

vii. Claims 31-36, 45-49

For the same reasons discussed above with respect to claims 5-10, claims 31-36 and 45-49 are also clearly patentable over Alles in view of Liebl and Ehlers.

***E. Claims 50-53 are patentable under 35 U.S.C. § 103(a) over Alles (U.S. Patent***

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***No. 6,983,889) in view of Riley et al. (US 5,395,042) and Ehlers et al. (U.S. Patent No. 7,130,719).***

*i. Claim 50*

One of the requirements of a *prima facie* obviousness rejection is that the cited references must disclose or suggest each and every claimed feature. At a minimum, this requirement has not been met. Claim 50 recites:

50. (previously presented) A method of modifying a programmable regular HVAC schedule for a controller having a user interface, the method comprising the steps of:  
providing one or more schedule override menu choices to a user via the user interface;  
accepting a start time, end time or duration, and a temperature response to the one or more of the schedule override menu choices from the user via the user interface at a first time; and  
overriding the regular HVAC schedule in an override mode based on the user responses provided by the user interface, the overriding step beginning at a second time, wherein the override mode does not change the regular HVAC schedule.

As detailed above, Alles cannot be considered as providing one or more schedule override choices. Alles certainly cannot be considered, therefore, as providing one or more schedule override menu choices to a user, and accepting a start time, end time or duration and a temperature setting for the override choice. Also, Alles cannot be considered as overriding a regular HVAC schedule in accordance with these choices without changing the regular HVAC schedule.

Riley cannot be considered as remedying the noted shortcomings of Alles. Riley appears to be directed to fine tuning operation of an HVAC system by addressing the nonlinear relationships between HVAC equipment operation and the corresponding environmental changes. One of ordinary skill in the art would clearly recognize that Riley does not describe or suggest the claimed features expressly missing from Alles. As discussed above, Ehlers cannot be considered as remedying the noted shortcomings of Alles. As such, none of Alles, Riley and Ehlers, either separately or in combination, teach or suggest the claimed invention. For these and other reasons, claim 50 is clearly patentable over Alles in view of Riley, and further in view of

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Ehlers. For similar and other reasons, dependent claims 51-53 are also clearly patentable over Alles in view of Riley, and further in view of Ehlers

ii. Claims 52, 53

For the same reasons discussed above with respect to claims 5-10, claims 52-53 are clearly patentable over Alles in view of Riley, and further in view of Ehlers.

***F. Claim 58 is patentable under 35 U.S.C. § 103(a) over Riley et al. (US 5,395,042) in view of Alles (U.S. Patent No. 6,983,889).***

One of the requirements of a *prima facie* obviousness rejection is that the cited references must disclose or suggest each and every claimed element. At a minimum, this requirement has not been met. Claim 58 recites:

58. (previously presented) A method for controlling an HVAC system having a controller including a user interface, the HVAC system is adapted to modify and control at least one environmental condition of an inside space of a structure, the structure having at least one window that opens and closes, the method comprising:

detecting an indication, based on user input into the user interface, that a window is or has been opened;

deactivating at least part of the HVAC system to not modify and control at least one environmental condition of the inside space;

detecting an indication, based on user input into the user interface, that the window is or has been closed;

activating the at least part of the HVAC system that was deactivated to again modify and control the at least one environmental condition of the inside space.

The Examiner acknowledges that Riley does not teach or suggest an indication being provided by a user, but asserts that Alles teaches indications are provided by a user via mode creation and editing mode capabilities concerning temperature, time and naming of modes. As discussed above, Alles appears to teach various Comfort-Climates parameters that are used for programming a programmable regular schedule. Alles does not appear to teach or suggest any indications regarding the physical elements of the structure (e.g. the open or closed status of windows). Thus any combination of Riley and Alles must fail to teach or



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suggest the elements of claim 58. For these and other reasons, claim 58 is clearly patentable over Riley in view of Alles.

***G. Claims 61-64 are patentable under 35 U.S.C. § 103(a) over Riley et al. (US 5,395,042) in view of Alles (U.S. Patent No. 6,983,889) and Ehlers et al. (U.S. Patent No. 7,130,719).***

Claim 58, from which claims 61-64 depend, is distinguished above as being clearly patentable over Riley and Alles. As claims 61-64 include the elements of claim 58 and also add additional elements, claims 61-64 are also clearly patentable over the Riley in view of Alles and further in view of Ehlers.

With respect to claim 61, the Examiner cites to column 45, line 39 through column 46, line 8 of Ehlers as teaching providing an alert/alarm if one or more environmental conditions falls outside of a predetermined range. However, claim 61 recites the specific method step of providing an alarm if: (1) one or more environmental conditions falls outside of a predetermined range; and (2) while the at least part of the HVAC system is deactivated (e.g. when the window is open). The Examiner has not alleged that Ehlers or Riley suggests this specific method step, nor do they teach this specific method step. For these additional reasons, claim 61 is clearly patentable over Riley in view of Alles, and further in view of Ehlers.

Likewise, claim 62 recites that the alarm is provided when an inside temperature drifts beyond an open window temperature set point. The Examiner states a modified Riley teaches an open window set point, wherein the open window set point is an arbitrary number set by the user, thereby, anytime a user establishes a low set point or a high set point, the set point is equivalent to an open window set point (citing Ehlers, column 2, lines 32-45). Notably, the cited passage of Ehlers appears to relate to setting the standard heating and cooling set points of a thermostat. There is no indication in either Ehlers or Riley that such standard heating or cooling set points are equivalent to an open window set point, as recited in claim 62. For these additional reasons, claim 62 is clearly patentable over Riley in view of Alles, and further in view of Ehlers. For similar and additional reasons, claim 63 is clearly

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patentable over Riley in view of Alles, and further in view of Ehlers.

***H. Claim 65 is patentable under 35 U.S.C. § 103(a) over Riley et al. (US 5,395,042) in view of Alles (U.S. Patent No. 6,983,889) and Ehlers et al. (U.S. Patent No. 7,130,719), as applied to claim 61, and further in view of Roy (US 5,257,736).***

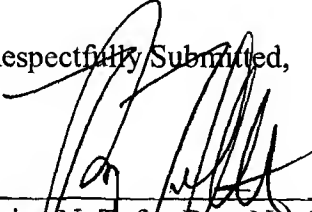
Claim 61, from which claim 65 depends, is distinguished above as being clearly patentable over Riley et al. in view of Alles and further in view of Ehlers. Roy does not remedy the noted shortcomings of the other references. As such, claim 65 is also clearly patentable over Riley in view of Alles, Ehlers and Roy.

***I. Conclusion.***

For the reasons stated above, the rejection of claim 57 under 35 U.S.C. § 112, second paragraph, the rejection of claims 54-57 and 66-70 under 35 U.S.C. § 102(e), and the rejection of claims 1-53, 58 and 61-65 under 35 U.S.C. § 103(a) should be reversed.

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Respectfully Submitted,

  
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VIII. CLAIMS APPENDIX

1. A method of overriding a programmable regular schedule for a controller having a user interface, the method comprising the steps of:  
providing a regular schedule for the controller;  
providing, simultaneously or sequentially, two or more schedule override choices to a user via the user interface;  
accepting a selection of one of the two or more schedule override choices from the user via the user interface;  
overriding the regular schedule based on the user responses provided via the user interface; and  
automatically returning to the regular schedule.
2. The method according to claim 1, wherein the step of automatically returning to the regular schedule occurs after the selected schedule override choices expires.
3. The method according to claim 1, wherein the providing step comprises providing one or more natural language schedule override choices.
4. The method according to claim 1, wherein the accepting step further comprises accepting a schedule override start time, end time or duration, and temperature.
5. The method according to claim 1, wherein the providing step comprises providing a natural language schedule override choice of “Come Home Early”.
6. The method according to claim 1, wherein the providing step comprises providing a natural language schedule override choice of “Come Home Late”.
7. The method according to claim 1, wherein the providing step comprises providing

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a natural language schedule override choice of “Get Up Early”.

8. The method according to claim 1, wherein the providing step comprises providing a natural language schedule override choice of “Stay Up Late”.

9. The method according to claim 1, wherein the providing step comprises providing a natural language schedule override choice of “Stay Home”.

10. The method according to claim 1, wherein the providing step comprises providing a natural language schedule override choice of “On Vacation”.

11. A controller comprising:  
a programmable regular schedule; and  
a user interface, adapted and configured to provide two or more schedule override choices to a user, and accepting the selection of one of the two or more schedule override choices from the user;

wherein, the controller enters an override mode for overriding the regular schedule based on the user responses provided by the user interface, and the controller automatically returning to the regular schedule when the selected override choice expires.

12. The controller according to claim 11, wherein the user interface comprises a touchscreen.

13. The controller according to claim 11, wherein the user interface provides one or more natural language schedule override choices.

14. The controller according to claim 11, wherein the user interface accepts a schedule override start time, end time and temperature.

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15. The controller according to claim 11, wherein the user interface provides a schedule override choice of “Come Home Early”.

16. The controller according to claim 11, wherein the user interface provides a schedule override choice of “Come Home Late”.

17. The controller according to claim 11, wherein the user interface provides a schedule override choice of “Get Up Early”.

18. The controller according to claim 11, wherein the user interface provides a schedule override choice of “Stay Up Late”.

19. The controller according to claim 11, wherein the user interface provides a schedule override choice of “Stay Home”.

20. The controller according to claim 11, wherein the user interface provides a schedule override choice of “On Vacation”.

21. A controller comprising:  
a programmable regular schedule; and  
a user interface, adapted and configured to provide two or more schedule override choices to a user, and accepting the selection of one of the two or more schedule override choices from the user;  
wherein, the two or more schedule override choices includes a schedule override choice of “Come Home Early” and the regular schedule is temporarily overridden based on the user response provided via the user interface.

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22. A controller comprising:  
a programmable regular schedule; and  
a user interface, adapted and configured to provide two or more schedule override choices to a user, and accepting the selection of one of the two or more schedule override choices from the user;  
wherein, the one or more schedule override choices includes a schedule override choice of “Come Home Late” and the regular schedule is temporarily overridden based on the user responses provided by the user interface.

23. A controller comprising:  
a programmable regular schedule; and  
a user interface, adapted and configured to provide two or more schedule override choices to a user, and accepting the selection of one of the two or more schedule override choices from the user;  
wherein, the one or more schedule override choices includes a schedule override choice of “Get Up Early” and the regular schedule is temporarily overridden based on the user responses provided by the user interface.

24. A method of temporarily overriding a regular programmable HVAC schedule in a controller having a user interface, the method comprising the steps of:  
providing a regular HVAC schedule;  
providing one or more schedule override choices to a user via the user interface;  
accepting a user selection of one or more of the schedule override choices from the user via the user interface at a first time; and  
overriding temporarily the regular schedule in an override mode that is based on the selected one or more of the schedule override choices, the overriding step beginning at a second time that is later than the first time.

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25. The method according to claim 24, wherein the second time is later than the first time by a user selected time interval.

26. The method according to claim 25, wherein the user selected time interval is at least 10 minutes.

27. The method according to claim 25, wherein the user selected time interval is at least 30 minutes.

28. (previously presented) The method according to claim 25, wherein the user selected time interval is at least 1 hour.

29. The method according to claim 25, wherein the user selected time interval is at least 24 hours.

30. The method according to claim 24, wherein the accepting step further comprises accepting a schedule override start time, end time or duration, and temperature, wherein the start time is the second time.

31. The method according to claim 24, wherein the providing step comprises providing a schedule override choice of “Come Home Early”.

32. The method according to claim 24, wherein the providing step comprises providing a schedule override choice of “Come Home Late”.

33. The method according to claim 24, wherein the providing step comprises providing a schedule override choice of “Get Up Early”.

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34. The method according to claim 24, wherein the providing step comprises providing a schedule override choice of “Stay Up Late”.

35. The method according to claim 24, wherein the providing step comprises providing a schedule override choice of “Stay Home”.

36. The method according to claim 24, wherein the providing step comprises providing a schedule override choice of “On Vacation”.

37. A controller comprising:  
a programmable regular schedule; and  
a user interface, adapted and configured to provide one or more schedule override choices to a user, and accept one or more user responses to the one or more schedule override choices from the user at a first time;  
wherein, the schedule is overridden beginning at a second time based on the user responses provided by the user interface, and the second time is later than the first time.

38. The controller according to claim 24, wherein the second time is later than the first time by a user selected time.

39. The controller according to claim 38, wherein the user selected time is at least 10 minutes.

40. The controller according to claim 38, wherein the user selected time is at least 30 minutes.

41. The controller according to claim 38 wherein the user selected time is at least 1 hour.



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42. The controller according to claim 38, wherein the user selected time is at least 24 hours.

43. The controller according to claim 37, wherein the user interface accepts a schedule override start time, end time or duration, and temperature, wherein the start time is the second time.

44. A method of modifying a programmable regular HVAC schedule for a controller having a user interface, the method comprising the steps of:

- providing a regular HVAC schedule for a controller having a user interface;
- providing one or more schedule comfort override menu choices to a user via the user interface;
- accepting a start time, end time or duration, and comfort temperature response to the one or more schedule comfort override choices from the user via the user interface at a first time;
- overriding the regular HVAC schedule based on the user responses provided by the user interface, the overriding step beginning at a second time, wherein the second time is later than the first time; and
- automatically returning to the regular HVAC schedule.

45. The method according to claim 44, wherein one of the schedule comfort override menu choices is “Come Home Early”.

46. The method according to claim 45, wherein one of the schedule comfort override menu choices is “Get Up Early”.

47. The method according to claim 45, wherein one of the schedule comfort override menu choices is “Stay Up Late”.

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48. The method according to claim 45, wherein one of the schedule comfort override menu choices is “Stay Home”.

49. The method according to claim 45, wherein one of the schedule comfort override menu choices is “On Vacation”.

50. A method of modifying a programmable regular HVAC schedule for a controller having a user interface, the method comprising the steps of:

providing one or more schedule override menu choices to a user via the user interface;  
accepting a start time, end time or duration, and a temperature response to the one or more of the schedule override menu choices from the user via the user interface at a first time;  
and

overriding the regular HVAC schedule in an override mode based on the user responses provided by the user interface, the overriding step beginning at a second time, wherein the override mode does not change the regular HVAC schedule.

51. The method according to claim 50, wherein the overriding step comprises the second time being later than the first time by a user selected time interval.

52. The method according to claim 50, wherein the providing step comprises providing a schedule override choice of “Come Home Late”.

53. The method according to claim 50, wherein the providing step comprises providing a schedule override choice of “On Vacation”.

54. A method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space in accordance with a first set point, the

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method comprising:

deactivating at least a first part of the HVAC system to not modify and control at least one environmental condition of the inside space in accordance with the first set point;

monitoring the environmental condition in the inside space that the HVAC system is no longer modifying and controlling; and

automatically activating at least the first part of the HVAC system to again modify the environmental condition in the inside space if the environmental condition in the inside space passes a second set point, wherein the second set point is different than the first set point.

55. A method according to claim 54 wherein the at least one environmental condition is one or more of temperature or humidity.

56. A method according to claim 55 wherein the second set point is user selectable.

57. A method for controlling an HVAC system that has a fan that normally operates during heating and/or cooling operations, the method comprising:

requesting a time indicator from a user;

over-riding the fan for a time corresponding to the time indicator provided by the user;

and

returning to normal fan operation after the time expires.

58. A method for controlling an HVAC system having a controller including a user interface, the HVAC system is adapted to modify and control at least one environmental condition of an inside space of a structure, the structure having at least one window that opens and closes, the method comprising:

detecting an indication, based on user input into the user interface, that a window is or has been opened;

deactivating at least part of the HVAC system to not modify and control at least one

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environmental condition of the inside space;

detecting an indication, based on user input into the user interface, that the window is or has been closed;

activating the at least part of the HVAC system that was deactivated to again modify and control the at least one environmental condition of the inside space.

61. A method according to claim 58 further comprising the step of providing an alarm if one or more environmental conditions falls outside of a predetermined range while the at least part of the HVAC system is deactivated.

62. A method according to claim 61 wherein the alarm is provided when an inside temperature drifts beyond an open window temperature set point.

63. A method according to claim 61 wherein the alarm is provided when an inside humidity level drifts beyond an open window humidity set point.

64. A method according to claim 61 wherein the alarm is provided when an inside air quality falls outside of an open window air quality range.

65. A method according to claim 61 wherein the alarm is provided when the barometric pressure drops by a predetermined amount.

66. A method for controlling an HVAC system that is adapted to modify and control an environmental condition of an inside space of a structure, the method comprising:

controlling a first environmental condition using a first control set point;

sensing the first environmental condition outside of the structure; and

adjusting the first control set point if the first environmental condition outside of the structure passes a predetermined value.

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67. A method according to claim 66 wherein the first environmental condition is temperature.

68. A method according to claim 66 wherein the first environmental condition is humidity.

69. A method according to claim 67 wherein the first control set point is adjusted in a manner that reduces the load on the HVAC system.

70. A method according to claim 67 wherein the first control set point is only allowed to be adjusted by a predetermined amount.

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IX. EVIDENCE APPENDIX

No additional evidence has been presented.

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X. RELATED PROCEEDINGS APPENDIX

There are no related appeals or interferences.